



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of	:	Confirmation No. 6940
Masami SUWAMA et al.	:	Docket No. 2004-0483A
Serial No. 10/808,437	:	Group Art Unit 1762
Filed: March 25, 2004	:	Examiner W.P. Fletcher, III

PAINT FILM FORMING METHOD

DECLARATION UNDER RULE 1.132

Honorable Commissioner of  
Patent and Trademarks  
Washington, D.C.

Sir:

I, Masami Suwama, hereby declare as follows:

That I graduated, in March 1989, at Keio University, Department of Science and Engineering, and, in April of the same year, joined Kansai Paint Co., Ltd., where I was assigned to the Research Institute in the Development Center of the same company;

That I have since engaged in the research for the development of paint in the same Research Institute up to now;

That I am one of the co-inventors of U.S. Application Serial No. 10/808,437;

That the following experiments were carried out by myself, or under my supervision and control.

THE COMMISSIONER IS AUTHORIZED  
TO CHARGE ANY DEFICIENCY IN THE  
FEES FOR THIS PAPER TO DEPOSIT  
ACCOUNT NO. 23-0975

1. Production of hydroxyl-containing resins and oligomer:

1-1. Acrylic resin Nos. 1-3 were produced in accordance with the present specification, page 17, line 17 to page 18, line 13.

1-2. Acrylic resin No. 8 was produced with use of monomer mixture of the composition as shown in Production Example 8 of Table 1A below, by the method of Production Example 1 as mentioned in the present specification, page 17, line 17 to page 18, line 7.

1-3. Oligomer No. 1 was produced in accordance with the present specification, page 20, lines 1-13.

Table 1A

		Production Example 1	Production Example 2	Production Example 3	Production Example 8
Composition	Acrylic resin	No. 1	No. 2	No. 3	No. 8
	Styrene	25	25	35	15.6
	Methyl methacrylate	10			
	<i>n</i> -Butyl acrylate	5	10	11	
	Isobutyl methacrylate	18	18	18	
	4-Hydroxybutyl acrylate	5		14	
	FM-3 (note 1)	15	20		
	<i>n</i> -Butyl methacrylate				62.3
	<i>t</i> -Butylcyclohexyl acrylate				10
	2-Hydroxypropyl acrylate	15	10	5	
	3-Hydroxypropyl acrylate	5	15	15	10
	Acrylic acid	2	2	2	2.1
	Di- <i>tert</i> -butylhydroperoxide	8	8	8	6
	Solid content (%)	60	60	60	60
Property values	Acid value (mgKOH/g)	16	16	16	16
	Hydroxyl value (mgKOH/g)	122	125	135	118
	Weight-average molecular weight (Mw)	12,000	12,000	12,000	12,000

(note 1) FM-3™: Daicel Chemical Industries, Ltd.,  $\epsilon$ -caprolactone-modified  
vinyl monomer of 2-hydroxyethyl acrylate

2. Production of clear paint Nos. 1-3 and 8-11:

Clear paint Nos. 1-3 and 8-11 were produced by the blending of components as shown in Table 2A below, in accordance with the method of Example 1 as mentioned in the present specification, page 20, lines 15-20.

Table 2A

	Example 1	Example 2	Example 3	Comparative Example 8	Comparative Example 9	Comparative Example 10	Comparative Example 11
Clear paint	No. 1	No. 2	No. 3	No. 8	No. 9	No. 10	No. 11
Acrylic resin (A)	60 % Acrylic resin No. 1			60			60
	60 % Acrylic resin No. 2	60			60		
	60 % Acrylic resin No. 3		60			60	
Curing agent (B)	Desmodur™ N3300 (note 2)	40	40	40	40	40	40
Oligomer (C)	Oligomer No. 1	10	10				
Acrylic resin No. 8							10

(note 2) Desmodur™ N3300: Sumika Bayer Urethane Co., Ltd., isocyanurate type hexamethylene diisocyanate

### 3. Test:

Test panels were produced in accordance with the present specification, page 22, line 1 to page 25, line 11, and, thus, performances of each coating film were evaluated. Results are shown in Table 3A below.

Table 3A  
TEST RESULTS

Test panel	Example 1	Example 2	Example 3	Comparative Example 8	Comparative Example 9	Comparative Example 10	Comparative Example 11
	No. 1	No. 2	No. 3	No. 8	No. 9	No. 10	No. 11
Pot life of clear paint (note 3)	○	○	○	○	○	○	○
Gel fraction ratio (note 4)	94	94	94	94	94	94	85
Pencil hardness of paint film (note 5)	H	H	H	H	H	H	B
Tackiness of paint film (note 6)	○	○	○	○	○	○	×
Adherability (note 7)	○	○	○	×	×	×	×
Finished appearance (note 8)	○	○	○	×	×	×	×

The undersigned declarant declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application of any patent issuing thereon.

Signed this 14 day of October, 2005

Masami Suwama

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